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**Dee May** Director Federal Regulatory Affairs APR 0 6 1999

FEDERAL COMMUNICATIONS COMMISSION OFFICE OF THE SECRETARY



April 6, 1999

#### Ex Parte

Ms. Magalie Roman Salas Secretary Federal Communications Commission 445 12th Street, SW Washington, DC 20554

Re: <u>CC Dockets 97-121, 97-137, 97-208, 97-231</u>

Bell Atlantic met with representatives of the Common Carrier Bureau to discuss the New York Performance Assurance Plan. Additionally, we discussed the statistical bases for the individual measurements contained in that plan. Representing Bell Atlantic were Leslie Vial, Julie Canny, and Mary Batcher and Fritz Scheuren from Ernst & Young. FCC attendees included were Daniel Shiman, Whitey Thayer, Alex Belinfante, Andre Rausch and Florence Setzer. Materials used in the discussion are attached.

Please feel free to call me with any questions.

Sincerely,

Attachments

Cc: A. Belinfante

A. Rausch

F. Setzer

D. Shiman

#### **Hypothetical Examples using Typical Sample Sizes**

TABLE 1:

STATISTICAL SIGNIFICANCE WITH DIFFERENT SAMPLE SIZES AND CONSTANT PERCENTAGE DIFFERENCE

F	Performance		Volume		Results	
BA	BA CLEC		BA	CLEC	z-score	p-value
95.0%	90.0%	5.00%	200,000	50	-1.60	0.055
95.0%	90.0%	5.00%	200,000	100	-2.24	0.013
95.0%	90.0%	5.00%	200,000	500	-4.89	< 0.00003
95.0%	90.0%	5.00%	200,000	1,000	-6.87	< 0.00001

NOTE: The z-score is the LCUG modified z. Performance differences are fixed at 5%. The p-value indicates if a test statistic is statistically significant. For a one-tailed test, run at a conventional level of .05, significance is achieved if the p-value is less than .05.

TABLE 2:

STATISTICAL SIGNIFICANCE WITH DIFFERENT SAMPLE SIZES AND
CONSTANT DIFFERENCE IN MEANS

	Performance			me	Res	ults
BA	CLEC	Difference	BA	CLEC	z-score	p-value
23.0	20.0	3.0 hrs	150,000	50	-0.62	0.268
23.0	20.0	3.0 hrs	150,000	100	-0.87	0.192
23.0	20.0	3.0 hrs	150,000	500	-1.95	0.026
23.0	20.0	3.0 hrs	150,000	1,000	-2.76	0.003

NOTE: The z-score is the LCUG modified z. Performance differences are fixed at 3 hours. The p-value indicates if a test statistic is statistically significant. For a one-tailed test, run at a conventional level of .05, significance is achieved if the p-value is less than .05.

TABLE 3:

STATISTICAL SIGNIFICANCE WITH DIFFERENT SAMPLE SIZES AND
CONSTANT STATISTICAL SIGNIFICANCE IN PERCENTAGE

l	Performance			me	Res	ults
BA	CLEC	Difference	<u>BA</u>	CLEC	z-score	p-value
89.9%	95.0%	5.1%	200,000	50	-1.645	0.050
91.4%	95.0%	3.6%	200,000	100	-1.645	0.050
93.4%	95.0%	1.6%	200,000	500	-1.645	0.050
93.9%	95.0%	1.1%	200,000	1,000	-1.645	0.050

NOTE: The z values are fixed at a one-sided .05 level. The magnitude of the minimum difference needed to achieve significance changes as the sample size increases. The p-value indicates if a test statistic is statistically significant.

TABLE 4:

STATISTICAL SIGNIFICANCE WITH DIFFERENT SAMPLE SIZES AND
CONSTANT STATISTICAL SIGNIFICANCE IN MEANS

F	Performance			Performance Volume			Res	ults
<u>BA</u>	CLEC	Difference	BA	CLEC	z-score	p-value		
28.0	20.0	8.0 hrs	150,000	50	-1.645	0.050		
25.7	20.0	5.7 hrs	150,000	100	-1.645	0.050		
22.5	20.0	2.5 hrs	150,000	500	-1.645	0.050		
21.8	20.0	1.8 hrs	150,000	1,000	-1.645	0.050		

NOTE: The z values are fixed at a one-sided .05 level. The magnitude of the minimum difference needed to achieve significance changes as the sample size increases. The p-value indicates if a test statistic is statistically significant.



## Performance Assurance Plan

Bell Atlantic New York

**Pre-Filing Statement** 

Update: April 5, 1999

### Overview:

- Background
  - April 1998: NY Pre-Filing Statement Section V: Ensuring Continued Performance after InterLATA entry
- Proposed Performance Assurance Plan March 1999
  - Mode of Entry
    - Measurements
    - Performance Scoring
    - Performance Credits
  - Critical Measures
- Next Steps

## **Background:**

April 1998 Pre-Filing Statement

Ensuring Continued Performance after InterLATA entry

#### Two Tracks:

- Overall Performance Mode of Entry \$75 Million at Risk
  - Three Categories:
    - Resale
    - Unbundled Network Elements
    - Interconnection
  - Aggregated score for each category
  - A miss in the aggregate score triggers adjustments for all CLECs with service in the category
- Critical Measures \$75 Million at Risk
  - 12 Critical Measurements
  - Evaluate Industry Performance and credit CLECs based on their individual performance.

## Performance Assurance Plan – March 1999

Mode of Entry:

Modifications to accommodate changes in C2C Guidelines and marketplace experience.

- New Measures and Weights
- Performance Scoring Statistical Tools
- Dollar Allocations
- Fourth Category Collocation

## Mode of Entry - New Measures and Weights

ESAL PO Pre	-Ordering	Weight
	omer Service Record	15
	Date Availability	1
	ess Validation	<del></del>
	ict and Service Availability	1
	hone Number Availability and Reservation	1
<del></del>	y Availability (Loop Qualification)	1
	System Availability Prime	20
	swered within 30 Seconds - Ordering	10
	swered within 30 Seconds - Repair	10
DR Ord	ering	
	Time LSRC - Flow Through - POTS - 2hrs	20
	LSRC <10 Lines (Elec No Flow Through) - POTS	5
	LSRC <10 Lines (Elec No Flow Through) - Specials	5
	Time LSRC >= 10 Lines (Electronic) - POTS	5
	Time LSRC >= 10 Lines (Electronic) – Specials	5
	Time LSR Reject - Flow Through - POTS	15
	LSR Rej.<10 Lines (ElecNo Flow Through)-POTS	15
04 % OT	LSR Rej.<10 Lines (ElecNo Flow Through)-Specials	5
06 % On	Time LSR Reject >=10 Lines (Electronic) - POTS	5
06 % On	Time LSR Reject >=10 Lines (Electronic) - Specials	5
02 Comp	letion Notice - % On Time	15
01 % Flo	w Through - Achieved - POTS & Specials	ud
03  % LSI	RC Accuracy	20
R Pro	visioning	
	npleted w/in 5 Days (1-5 lines - No Dispatch) - POTS Total	5
	npleted w/n 5 Days (1-5 lines - Dispatch) - POTS Total	10
	sed Appointment - BA - Total - Specials	10
	ge Delay Days - Total POTS	10
02 Avera	ge Delay Days - Total - Specials	10
04 % Mis	sed Appointment - BA - Dispatch - POTS	10
05 % Mis	sed Appointment- BA - No Dispatch - POTS	20
01 % Mis	sed Appointment - Facilities - POTS	5
	sed Appointment - Facilities - Specials	5
	ers Held for Facilities > 15 days - POTS	10
	ers Held for Facilities > 15 days - Specials	10
	allation Troubles within 30 days - POTS	15
	allation Troubles within 30 days - Specials	15
R Mair	ntenance & Repair	
	ge Response Time - Create Trouble	11
	ge Response Time - Modify Trouble	1
	ge Response Time - Request Cancellation of Trouble	1
	ge Response Time - Test Trouble (POTS only)	1
	rk Trouble Report Rate (Specials)	10
	rk Trouble Report Rate - Loop (POTS)	10
	sed Repair Appointments – Loop	20
<del></del>	sed Repair Appointments - Central Office	5
	Time to Repair – Specials	20
	Time to Repair - Loop Trouble	15
	Time to Repair - CO Trouble	5
	of Service > 24 Hours - POTS	20
	of Service > 24 Hours – Specials	5
	eat Reports w/in 30 days - POTS	15
	eat Reports w/in 30 days - Specials	15
Billi	ng	
01 % DU	in 4 Business Days	10
	TOTAL	469

PO	Pre-Ordering Pre-Ordering	Weigh
1-01	Customer Service Record	15
1-02	Due Date Availability	1
1-03	Address Validation	111
1-04	Product and Service Availability	1
1-05	Telephone Number Availability and Reservation	1
1-06	Facility Availability (Loop Qualification)	1
2-02	OSS Interface Availability - Prime	20
3-02	% Answered within 30 Seconds - Ordering	10
3-04	% Answered within 30 Seconds - Repair	10
OR	Ordering	
1-02	% On Time LSRC - Flow Through - POTS - 2hrs	20
1-04	. <del>  </del>	5
1-04	. <u>                                    </u>	5
1-04	<del></del>	5
1-06		5
1-06		5
1-06		5
2-02		15
2-04		15
2-04		5
	% OT LSR Rej.<10 lines (ElecNo Flow Through)-Complex	5
	% On Time LSR Reject >= 10 Lines (Electronic) - POTS	5
	% On Time LSR Reject >= 10 Lines (Electronic) - Specials	5
	% On Time LSR Reject >= 10 Lines (Electronic) - Complex	5
	Completion Notice - % On Time	15
5-01	<u></u>	bu
6-03	. <del> </del>	20
PR	Provisioning	
3-08	<del>                                      </del>	5
	·/	10
4-01	' <del>                                     </del>	10
	% Missed Appointment - BA - Total - EEL	10
	% Missed Appointment - BA - Total - IOF	10
	Average Delay Days - Total - POTS	10
	Average Delay Days - Total - Pors	10
	Average Delay Days - Total - Specials  Average Delay Days - Total - Complex	10
4-04		10
4-04	% Missed Appointment - BA - Dispatch - New Loop	5
4-04	% Missed Appointment - BA - Dispatch - Complex	5
4-05	% Missed Appointment - BA - Dispatch - Complex  % Missed Appointment - BA - No Dispatch - Platform	20
4-05	<del></del>	10
4-05	% On Time Performance – Hot Cut	20
5-01	% Missed Appointment – Facilities - POTS	5
	% Missed Appointment – Facilities - Pors % Missed Appointment – Facilities - Specials	5
5-01	. <del> </del>	
5-02	<i>.</i>	10
		10
5-02	19/ Installation Troubles within 20 days DOTC Other	) <u></u>
6-01 6-01	% Installation Troubles within 30 days - POTS Other % Installation Troubles within 30 days - Specials	15

Unbu	ndled Network Elements - continued	Weight
MR	Maintenance & Repair	\
1-01	Average Response Time - Create Trouble	1
1-03	Average Response Time - Modify Trouble	1
1-04	Average Response Time - Request Cancellation of Trouble	1
1-06	Average Response Time - Test Trouble (POTS only)	1
2-01	Network Trouble Report Rate	10
2-02	Network Trouble Report Rate - Loop	10
3-01	% Missed Repair Appointments - Loop	20
3-02	% Missed Repair Appointments - Central Office	5
4-01	Mean Time to Repair - Specials	20
4-02	Mean Time to Repair - Loop Trouble	15
4-03	Mean Time to Repair - CO Trouble	5
4-08	% Out of Service > 24 Hours - POTS	20
4-08	% Out of Service > 24 Hours - Specials	5
5-01	% Repeat Reports w/in 30 days - POTS	15
5-01	% Repeat Reports w/in 30 days - Specials	15
BI	Billing	
1-02	% DUF in 4 Business Days	10
	TOTAL	574

#### INTERCONNECTION

OR	Ordering	Weight
1-12	% On Time Firm Order Confirmations	15
1-13	% On Time Design Layout Record (DLR)	10
2-12	% On Time Trunk ASR Reject	10
PR	Provisioning	
4-01	% Missed Appointment - BA - Total	20
	Average Delay Days - Total	10
4-07	% On Time Performance - LNP only	20
5-01	% Missed Appointment - Facilities	10
5-02	% Orders Held for Facilities > 15 Days	10
6-01	% Installation Troubles w/in 30 Days	15
MR	Maintenance & Repair	
4-01	Mean Time to Repair - Total	20
4-06	% OOS>4 Hrs	20
4-08	% Out of Service > 24 Hours	10
5-01	% Repeat Reports w/in 30 Days	10
<u>NP</u>	Network Performance	
1-03	# of Final Trunk Groups Blocked 2 Months	10
1-04	# of Final Trunk Groups Blocked 3 Months	20
	Total	180

Colle	Collocation				
NP	Network Performance	Weight			
2-01	% On Time Response - Request Physical	10			
2-02	% On Time Response - Request Virtual	10			
2-05	% On Time - Physical Collocation	20			
2-06	% On Time - Virtual Collocation	20			
2-07	Average Delay Days - Physical Collocation	20			
2-08	Average Delay Days - Virtual Collocation	20			
		100			

## Performance Standards and Scoring

Standards: Carrier to Carrier (C2C) Guidelines

- For performance measures with "parity" standards:
  - Determine Z Score
  - Modified Z score derived from C2C Guidelines
  - Small Sample Size Utilize Permutation Tests
- For performance measures with Absolute standards:
  - Range of Performance determines score
  - Small Sample Size utilize table for scoring

### Statistical Formulas:

Measured Variables:	Counted Variables:
$t = \frac{\overline{X}_{CLEC} - \overline{X}_{BA}}{\sqrt{s_{BA}^2 (\frac{1}{n_{CLEC}} + \frac{1}{n_{BA}})}}$	$Z = \frac{\mathcal{P}_{CLEC} - \mathcal{P}_{BR}}{\sqrt{\mathcal{P}_{BR}(1 - \mathcal{P}_{BR})(\frac{1}{n_{CLEC}} + \frac{1}{n_{BR}})}}$

#### **Definitions:**

Measured Variables are metrics of means or averages, such as mean time to repair, or average interval.

Counted Variables are metrics of proportions, such as percent measures.

X is defined as the average performance or mean of the sample

S<sup>2</sup> is defined as the standard deviation

n is defined as the sample size

p is defined as the proportion, for percentages 90% translates to a 0.90 proportion

A Z or t score of below -1.645 provides a 95% confidence level that the variables are different, or that they come from different processes.

### **Small Sample Size (Parity Measures)**

### When Sample is too small utilize Permutation:

For Measures of Percentages: np(1-p) < 5

For Measures of Means: < 30

#### Clustering Exceptions:

A key frailty of using statistics to evaluate parity is that a key assumption about the data, necessary to use statistics, is faulty. On such assumption is that the data is independent. Events included in the performance measures of provisioning and maintenance of telecommunication services are not independent. The lack of independence is referred to as "clustering" of data. Clustering occurs when individual items (orders, troubles etc.) are clustered together as one single event. This being the case, Bell Atlantic will file an exception to the performance scores in the pre-filing backsliding performance if the following events occur:

- a.) Event Driven Clustering: Cable Failure: If a significant proportion (more than 30%) of a CLECs troubles are in a single cable failure, BA will provide the data demonstrating that all troubles within that failure, including Bell Atlantic troubles were resolved in an equivalent manner. Then, BA will provide the repair performance data with that cable failure performance excluded from the overall performance for both the CLEC and BA and the remaining troubles compared according to normal statistical methodologies.
- b.) Location Driven Clustering: Facility Problems: If a significant proportion (more than 30%) of a CLECs missed installation orders and resulting delay days were due to an individual location with a significant facility problem, BA will provide the data demonstrating that the orders were "clustered" in a single facility shortfall. Then, BA will provide the provisioning performance with that data excluded. Additional location driven clustering may be demonstrated by disaggregating performance into smaller geographic areas.
- c.) <u>Time Driven Clustering: Single Day Events</u>: If significant proportion (more than 30%) of CLEC activity, provisioning or maintenance, occur on a single day within a month, and that day represents an unusual amount of activity is in a single day, BA will provide the data demonstrating that the activity is on that day. BA will compare that single day's performance for the CLEC to BA's own performance. Then, BA will provide data with that day excluded from overall performance to demonstrate "parity".
- d.) <u>CLEC Actions</u>: If performance for any measure is impacted by unusual CLEC behavior, BA will bring such behavior to the attention of the CLEC to attempt resolution. Examples of CLEC behavior impacting performance results include order quality, causing excessive missed appointments, incorrect dispatch identification, resulting in excessive multiple dispatch and repeat reports, inappropriate X coding on orders, where extended due dates are desired, and delays in rescheduling appointments, when BA has missed an appointment. If such action negatively impacts performance, BA will provide appropriate detail documentation of the events and communication to the individual CLEC and the Commission.

#### Documentation:

BA will provide all details, ensuring protection of customer proprietary information to the CLEC and Commission. Details include, individual trouble reports, and orders with analysis of BA and CLEC performance. For cable failures, BA will provide appropriate documentation detailing all other troubles associated with that cable failure.

# **Small Sample Size Table for Performance Measures with Absolute Standards:**

### "Allowable Misses"

95% Standard

Sample Size	Zero weight	0	-1	-2
1	1	0	NA	NA
2	1	0	2	NA
3	1	0	2	3
4	1	0	2	3+
5	1	0	2	3+
6	1	0	2	3+
7	1	0	2	3+
8	1	0	2	3+
9	1	0	2	3+
10	1	0	2	3+
11	1	0	2	3+
12	1	0	2	3+
13	1	0	2	3+
14	1	0	2	3+
15	1	0	2	3+
16	1	0	2	3+
17	1	0	2	3+
18	1	0	2	3+
19	1	0	2	3+
20	-	1	2	3+

#### 90% Standard

Sample Size	Zero weight	0	-1	-2
1	1	0	NA	NA
2	1	0	2	NA
3	1	0	2	3
4	1	0	2	3+
5	1	0	2	3+
6	1	0	2	3+
7	1	0	2	3+
8	1	0	2	3+
9	1	0	2	3+
10	-	1	2	3+
11	2	1	3	4+
12	2	1	3	4+
13	2	1	3	4+
14	2	1	3	4+
15	2	1	3	4+
16	2	1	3	4+
17	2	1	3	4+
18	2	1	3	4+
19	2	1	3	4+
20	-	2	3	4+

## Performance Scores for Measures with Absolute Standards:

Measure	0	-1	-2	
OSS Response Time	≤ 4 Second Diff.	4.1 to 6 seconds	> 6 seconds	
OSS Availability	≥ 99.5%	98 to 99.4%	< 98%	
95% standards	≥ 95%	90 to 94.9%	< 90%	
Speed of Answer	≥ 80%	75 to 79.9%	< 75%	
Collocation Delay	≤ 6 Days	7 - 15 Days	> 15 Days	
Days .				
Trunk Blockage	≤ 2% of Final	> 2% of Final	> 2% of Final	
(MOE)	Interconnection Trunks	Interconnection Trunks	Interconnection Trunks	
(MOE)	exceeding blocking standard	exceeding blocking standard	exceeding blocking standard	
	for 2 months in a row	for 2 months in a row	for 3 months in a row	
Trunk Blockage -	Final Interconnection	Any individual Final	Any individual Final	
CM (CLEC	Trunks meeting or	Interconnection Trunk group	Interconnection Trunk group	
,	exceeding blocking standard	exceeding blocking standard	exceeding blocking standard	
specific)	for one month	for 2 months in a row for 3 months in a		

## **Mode of Entry:**

## Dollars At risk

_	RESALE	UNE	Collocation	TRUNKS
Monthly	\$937,500	\$3,750,000	\$208,333	\$1,354,167
Annual	\$11,250,000	\$45,000,000	\$2,500,000	\$16,250,000

## **Mode of Entry Performance Scoring:**

For each measure with a "parity" standard:

## Step 1:

Calculate Z score or perform permutation (for small samples)

## Step 2:

Convert Z score to performance score

<b>Z</b> Score	Performance Score	Parity	
Z ≤ -1.645	-2	Not Achieved <sup>1</sup>	
Z < -0.8225 and $> -1.645$	-1	In Question <sup>2</sup>	
Z > -0.8225	0	Achieved	

For each measure with an absolute standard:

## <u>Step 1:</u>

Determine Performance Score using performance range tables (for small sample sizes, use small sample size table.

## No Step 2

<sup>&</sup>lt;sup>1</sup> For report rate measures – regardless of z score – if absolute difference is less than 0.1%, the performance score is a 0.

<sup>&</sup>lt;sup>2</sup> A -1 Performance score will revert to a zero if the two subsequent months have 0 performance scores

## **Mode of Entry Performance Scoring:**

### Step 3:

After 2 additional months performance (allowing for adjustments for -1 scores.) Weight performance score for each metric in each MOE

## Step 4:

Accumulate total performance score for each MOE. If performance score is  $\leq$  -0.2 go to step 5. Otherwise, no credits due.

## Step 5:

Create Performance Credit table. Divide total monthly dollars by lines (units) in service using actual volume for maximum rate. Allocate across 20 performance scores from -0.2 to -X (with 10% of rate at -0.2).

## Step 6:

Determine rate from table using score

## Step 7:

Calculate credit using rate multiplied by lines in service for each CLEC within that MOE.

## Critical Measures – Annual Dollars

	Vletric	Description	Resale	UNE	Collocation	Trunks
1	!	Response Time OSS Interface	\$1,510,417	\$4,500,000		1
	PO-1-01	Customer Service Record	×	X		
	PO-1-02	Due Date Availability	X	x		
	PO-1-03	Address Validation	X	X		
	PO-1-04	Product & Service Availability	х	X		
		TN Reservation	x	х		
	PO-1-06	Facility Availability (Loop Qualification)	х	X		
2	PO-2-02	OSS Interface Avail. (Prime Time)	\$1,510,417	\$4,500,000		
3	OR-6-03	% Accuracy LSRC		\$4,500,000		
4	İ	Installation Quality	\$1,510,417	\$4,500,000		\$3,072,917
		% Inst. Troubles within 30 Days - POTS	X	X(UNE-P)		
		% Inst. Troubles within 30 Days -Specials	X	X		
		% Inst. Troubles within 30 Days - Trunks				X
		% Install. Troubles within 7 Days - Loops		x		
5a	PR-4-01	% Missed Appt BA - Total - EEL		\$2,250,000		
5b	1	% Missed Appointments - Complex		\$2,250,000		
		Complex Dispatch		x		
	PR-4-05	Complex No Dispatch		x		
6		% Missed Appointments	\$1,510,417	\$4,500,000		\$3,072,917
		Total - Specials	X	х		
		Total - Trunks				x
		Dispatch - POTS	X			
		Dispatch - Loop - New	<u> </u>	X		
		No Dispatch - POTS	X			
7	PR-4-05	% Missed Appt. No Disp Platform		\$4,500,000		
8		% On Time Performance Hot Cut		\$4,500,000		
9	PR-4-07	% On Time Performance - UNE LNP				\$3,072,917
10		% Repeat Reports within 30 Days	\$1,510,417	\$4,500,000		\$3,072,917
	MR-5-01		×	x		
	MR-5-01		×	×		x
11	<u> </u>	Mean Time To Repair	\$1,510,417	\$4,500,000		\$3,072,917
		Total (Specials\Trunks)	X	X		х
	MR-4-02		×	Х		
		No Dispatch	х	Х		
		% Out of Service > 4 Hours				X
		% Out of Service > 24 Hours	Х	X		
12		% Final Trunks Groups Blocking				\$3,072,917
		Blocked 2 Months				X
	NP-1-04	Blocked 3 Months				X
13		Collocation			\$2,500,000	
	<u> </u>	% Completed on Time - Physical & Virtual			Х	
	NP-2-7\8	Average Delay Days - Physical & Virtual			X	
		# Measures / product category	6	11	1	6
		Total Dollars At Risk - Annual	\$9,062,500	\$45,000,000	\$2,500,000	\$18,437,500

x - measure included at weight from MOE measures

Next Steps:

The Value for X